MODIS Interactive Subsetting Tool (MIST)

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http://nsidc.org/data/modis

Background

The National Snow and Ice Data Center (NSIDC) archives and distributes a wide variety of data products relevant to all aspects of cryospheric science, including snow and sea ice products derived from the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Earth Observing System (EOS) Aqua and Terra satellites.

In response to requests by investigator's from the Arctic Observing Network (AON), NSIDC has teamed with the Oak Ridge National Laboratory (ORNL) and the Moderate Resolution Data Center (MRDC) to provide time series subsets of satellite data over stations in the Greenland Climate Network (GC-NET) and the International Arctic Systems for Observing the Atmosphere (IASOA) network stations, beginning with data from the MODIS instrument.

MIST Web site:
http://extranet.nsidc.org/glewis/mist/mist_search.pl

Development

The MODIS Interactive Subsetting Tool (MIST) provides 7 km by 7 km subset time series of certain Version 5 (V005) MODIS products over (GC-Net) and (IASOA) stations. Data is delivered in a text Comma Separated Value (CSV) file format. At this time MIST does not supply the GC-Net or IASOA in-situ data, however we hope to be able to supply these data in the near future. We are also in the process of providing limited on-line analysis capabilities including the ability to generate time series and scatter plots.

Available Products

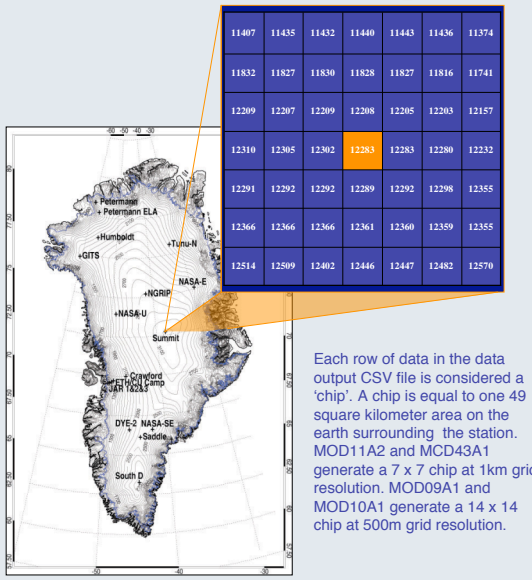
Short Name	Product Name
MOD09A1	MODIS/Terra Surface Reflectance 8-Day L3 Global 500m SIN Grid
MOD10A1	MODIS/Terra Snow Cover Daily L3 Global 500m Grid
MOD11A2	MODIS/Terra Land Surface Temperature/Emissivity 8 Day L3 Global
MCD43A1	MODIS/Terra+Aqua BRDF/Albedo Model Parameters 16-Day L3 Global 500m SIN Grid

Feedback

This is an Alpha prototype and NSIDC intends that user requests will drive future updates. Towards that end an on-line survey is in development. Until the survey is available, please share your feedback by e-mailing nsidc@nsidc.org. In particular we would be interested in knowing which, if any, of the following proposed enhancements you would find most useful:

1. Additional stations
2. Data from other spacecraft (e.g., AMSR-E)
3. Other MODIS products
4. GC-NET and IASOA station data
5. Additional graphics/analysis capabilities
6. Generic subset specification (location and size)
7. Data in other formats

Chip



Each row of data in the data output CSV file is considered a 'chip'. A chip is equal to one 49 square kilometer area on the earth surrounding the station. MOD11A2 and MCD43A1 generate a 7 x 7 chip at 1km grid resolution. MOD09A1 and MOD10A1 generate a 14 x 14 chip at 500m grid resolution.

Available Stations

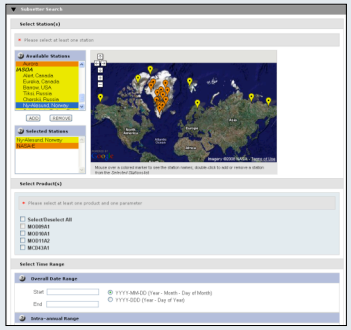
IASOA Locations
Alert, Canada
Eureka, Canada
Barrow, USA
Tiksi, Russia
Cherskii, Russia
Ny-Alesund, Norway
Soldankyla, Finland
Pallas, Finland

GC-NET
Swiss Camp
CP1
NASA-U
GITS
Humbolt Gl.
Summit
Tunu-N
DYE-2
JAR-1
Saddle
South Dome
NASA-E
CP2
NGRIP
NSAS-SE
KAR
JAR-2
KULU
JAR-3
Aurora

Interface Operation

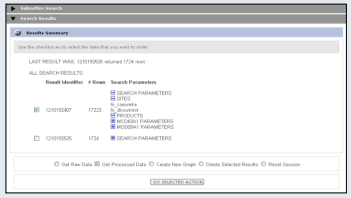
Searching

Users select a station or stations, a set of the available MODIS data products (MOD09A1, MOD10A1, MOD11A2, and MCD43A1), indicate a set of parameters for each product selected, and enter a temporal range. The interface allows for seasonal searches.



Selecting Results

The search returns a Results Identifier Number (ID), the Site ID(s), and a list of the parameters. To access the output, the user selects a data download type, either processed or raw, and then clicks on the Get Selected Data button to receive the CSV file.



Plotting Data

Alternately the user may opt to generate time series plots or scatter plots of selected parameters.